














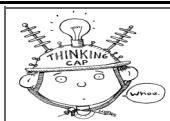





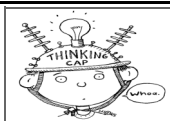










Strand	Knowledge and Skill	Student Expectation
 Creativity and Innovation	<b>1. The student uses creative thinking and innovative processes to construct knowledge and develop digital products. The student is expected to:</b>	(A) apply prior knowledge to develop new ideas, products, and processes; (B) create original products using a variety of resources; (C) explore virtual environments, simulations, models, and programming languages to enhance learning; (D) create and execute steps to accomplish a task; and (E) evaluate and modify steps to accomplish a task.
 Communication and Collaboration	<b>2. The student collaborates and communicates both locally and globally using digital tools and resources to reinforce and promote learning. The student is expected to:</b>	(A) use communication tools that allow for anytime, anywhere access to interact, collaborate, or publish with peers locally and globally; (B) participate in digital environments to develop cultural understanding by interacting with learners of multiple cultures; (C) format digital information, including font attributes, color, white space, graphics, and animation, for a defined audience and communication medium; and (D) select, store, and deliver products using a variety of media, formats, devices, and virtual environments.
 Research and Information Fluency	<b>3. The student acquires and evaluates digital content. The student is expected to:</b>	(A) use search strategies to access information to guide inquiry; (B) use research skills to build a knowledge base regarding a topic, task, or assignment; and (C) evaluate the usefulness of acquired digital content.
 Critical Thinking, Problem Solving and Decision Making	<b>4. The student applies critical-thinking skills to solve problems, guide research, and evaluate projects using digital tools and resources. The student is expected to:</b>	(A) identify what is known and unknown and what needs to be known regarding a problem and explain the steps to solve the problem; (B) evaluate the appropriateness of a digital tool to achieve the desired product; (C) evaluate products prior to final submission; and (D) collect, analyze, and represent data using tools such as word processing, spreadsheets, graphic organizers, charts, multimedia, simulations, models, and programming languages.
 Digital Citizenship	<b>5. The student practices safe, responsible, legal, and ethical behavior while using digital tools and resources. The student is expected to:</b>	(A) adhere to acceptable use policies reflecting appropriate behavior in a digital environment; (B) comply with acceptable digital safety rules, fair use guidelines, and copyright laws; and (C) practice the responsible use of digital information regarding intellectual property, including software, text, images, audio, and video.
 Technology Operations and Concepts	<b>6. The student demonstrates knowledge and appropriate use of technology systems, concepts, and operations. The student is expected to:</b>	(A) use appropriate terminology regarding basic hardware, software applications, programs, networking, virtual environments, and emerging technologies; (B) use appropriate digital tools and resources for storage, access, file management, collaboration, and designing solutions to problems; (C) perform basic software application functions, including opening an application and creating, modifying, printing, and saving files; (D) use a variety of input, output, and storage devices; (E) use proper keyboarding techniques such as ergonomically correct hand and body positions appropriate for Kindergarten-Grade 2 learning; (F) demonstrate keyboarding techniques for operating the alphabetic, numeric, punctuation, and symbol keys appropriate for Kindergarten-Grade 2 learning; and (G) use the help feature online and in applications.

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 Creativity and Innovation	<b>1. The student uses creative thinking and innovative processes to construct knowledge and develop digital products. The student is expected to:</b>	(A) create original products using a variety of resources; (B) analyze trends and forecast possibilities, developing steps for the creation of an innovative process or product; and (C) use virtual environments to explore systems and issues.
 Communication and Collaboration	<b>2. The student collaborates and communicates both locally and globally using digital tools and resources to reinforce and promote learning. The student is expected to:</b>	(A) draft, edit, and publish products in different media individually and collaboratively; (B) use font attributes, color, white space, and graphics to ensure that products are appropriate for multiple communication media, including monitor display, web, and print; (C) collaborate effectively through personal learning communities and social environments; (D) select and use appropriate collaboration tools; (E) evaluate the product for relevance to the assignment or task; and (F) perform basic software application functions, including opening applications and creating, modifying, printing, and saving files.
 Research and Information Fluency	<b>3. The student acquires and evaluates digital content. The student is expected to:</b>	(A) use various search strategies such as keyword (s); the Boolean identifiers and, or, and not; and other strategies appropriate to specific search engines; (B) collect and organize information from a variety of formats, including text, audio, video, and graphics; (C) validate and evaluate the relevance and appropriateness of information; and (D) acquire information appropriate to specific tasks.
 Critical Thinking, Problem Solving and Decision Making	<b>4. The student researches and evaluates projects using digital tools and resources. The student is expected to:</b>	(A) identify information regarding a problem and explain the steps toward the solution; (B) collect, analyze, and represent data to solve problems using tools such as word processing, databases, spread sheets, graphic organizers, charts, multimedia, simulations, models, and programming languages; (C) evaluate student-created products through self and peer review for relevance to the assignment or task; and (D) evaluate technology tools applicable for solving problems.
 Digital Citizenship	<b>5. The student practices safe, responsible, legal, and ethical behavior while using digital tools and resources. The student is expected to:</b>	(A) adhere to acceptable use policies reflecting positive social behavior in the digital environment; (B) respect the intellectual property of others; (C) abide by copyright law and the Fair Use Guidelines for Educational Multimedia; (D) protect and honor the individual privacy of oneself and others; (E) follow the rules of digital etiquette; (F) practice safe, legal, and responsible use of information and technology; and (G) comply with fair use guidelines and digital safety rules.
 Technology Operations and Concepts	<b>6. The student demonstrates knowledge and appropriate use of technology systems, concepts, and operations. The student is expected to:</b>	(A) demonstrate an understanding of technology concepts, including terminology for the use of operating systems, network systems, virtual systems, and learning systems appropriate for Grades 3-5 learning; (B) manipulate files using appropriate naming conventions; file management, including folder structures and tagging; and file conversions; (C) navigate systems and applications accessing peripherals both locally and remotely; (D) troubleshoot minor technical problems with hardware and software using available resources such as online help and knowledge bases; and (E) use proper touch keyboarding techniques and ergonomic strategies such as correct hand and body positions and smooth and rhythmic keystrokes.

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 <p>Creativity and Innovation</p>	<b>1. The student uses creative thinking and innovative processes to construct knowledge, generate new ideas, and create products. The student is expected to:</b>	(A) identify, create, and use files in various formats such as text, raster and vector graphics, video, and audio files; (B) create original works as a means of personal or group expression; (C) explore complex systems or issues using models, simulations, and new technologies to make predictions, modify input, and review results; and (D) discuss trends and possible outcomes.
 <p>Communication and Collaboration</p>	<b>2. The student collaborates and communicates both locally and globally to reinforce and promote learning. The student is expected to:</b>	(A) participate in personal learning networks to collaborate with peers, experts, or others using digital tools such as blogs, wikis, audio/video communication, or other emerging technologies; (B) communicate effectively with multiple audiences using a variety of media and formats; and (C) read and discuss examples of technical writing.
 <p>Research and Information Fluency</p>	<b>3. The student acquires, analyzes, and manages content from digital resources. The student is expected to:</b>	(A) create a research plan to guide inquiry; (B) discuss and use various search strategies, including keyword(s) and Boolean operators; (C) select and evaluate various types of digital resources for accuracy and validity; and (D) process data and communicate results.
 <p>Critical Thinking, Problem Solving and Decision Making</p>	<b>4. The student makes informed decisions by applying critical-thinking and problem-solving skills. The student is expected to:</b>	(A) identify and define relevant problems and significant questions for investigation; (B) plan and manage activities to develop a solution, design a computer program, or complete a project; (C) collect and analyze data to identify solutions and make informed decisions; (D) use multiple processes and diverse perspectives to explore alternative solutions; (E) make informed decisions and support reasoning; and (F) transfer current knowledge to the learning of newly encountered technologies.
 <p>Digital Citizenship</p>	<b>5. The student practices safe, responsible, legal, and ethical behavior while using technology tools and resources. The student is expected to:</b>	(A) understand copyright principles, including current laws, fair use guidelines, creative commons, open source, and public domain; (B) practice ethical acquisition of information and standard methods for citing sources; (C) practice safe and appropriate online behavior, personal security guidelines, digital identity, digital etiquette, and acceptable use of technology; and (D) understand the negative impact of inappropriate technology use, including online bullying and harassment, hacking, intentional virus setting, invasion of privacy, and piracy such as software, music, video, and other media.
 <p>Technology Operations and Concepts</p>	<b>6. The student demonstrates a thorough understanding of technology concepts, systems, and operations. The student is expected to:</b>	(A) define and use current technology terminology appropriately; (B) select technology tools based on licensing, application, and support; (C) identify, understand, and use operating systems; (D) understand and use software applications, including selecting and using software for a defined task; (E) identify, understand, and use hardware systems; (F) understand troubleshooting techniques such as restarting systems, checking power issues, resolving software compatibility, verifying network connectivity, connecting to remote resources, and modifying display properties; (G) demonstrate effective file management strategies such as file naming conventions, location, backup, hierarchy, folder structure, file conversion, tags, labels, and emerging digital organizational strategies; (H) discuss how changes in technology throughout history have impacted various areas of study; (I) discuss the relevance of technology as it applies to college and career readiness, life-long learning, and daily living; (J) use a variety of local and remote input sources; (K) use keyboarding techniques and ergonomic strategies while building speed and accuracy; (L) create and edit files with productivity tools, including: (i) a word processing document using digital typography standards such as page layout, font formatting, paragraph formatting, and list attributes; (ii) a spreadsheet workbook using basic computational and graphic components such as basic formulas and functions, data types, and chart generation; (iii) a database by manipulating components such as entering and searching for relevant data; and (iv) a digital publication using relevant publication standards; (M) plan and create non-linear media projects using graphic design principles; and (N) integrate two or more technology tools to create a new digital product.

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 <p>Creativity and Innovation</p>	<b>1. The student uses creative thinking and innovative processes to construct knowledge, generate new ideas, and create products. The student is expected to:</b>	<p>(A) identify, create, and use files in various formats such as text, raster and vector graphics, video, and audio files;</p> <p>(B) create and present original works as a means of personal or group expression;</p> <p>(C) explore complex systems or issues using models, simulations, and new technologies to make predictions, modify input, and review results; and</p> <p>(D) discuss trends and make predictions.</p>
 <p>Communication and Collaboration</p>	<b>2. The student collaborates and communicates both locally and globally to reinforce and promote learning. The student is expected to:</b>	<p>(A) create personal learning networks to collaborate and publish with peers, experts, or others using digital tools such as blogs, wikis, audio/video communication, or other emerging technologies;</p> <p>(B) communicate effectively with multiple audiences using a variety of media and formats; and</p> <p>(C) create products using technical writing strategies.</p>
 <p>Research and Information Fluency</p>	<b>3. The student acquires, analyzes, and manages content from digital resources. The student is expected to:</b>	<p>(A) create a research plan to guide inquiry;</p> <p>(B) use and evaluate various search strategies, including keyword(s) and Boolean operators;</p> <p>(C) select and evaluate various types of digital resources for accuracy and validity; and</p> <p>(D) process data and communicate results.</p>
 <p>Critical Thinking, Problem Solving and Decision Making</p>	<b>4. The student makes informed decisions by applying critical-thinking and problem-solving skills. The student is expected to:</b>	<p>(A) identify and define relevant problems and significant questions for investigation;</p> <p>(B) plan and manage activities to develop a solution, design a computer program, or complete a project;</p> <p>(C) collect and analyze data to identify solutions and make informed decisions;</p> <p>(D) use multiple processes and diverse perspectives to explore alternative solutions;</p> <p>(E) make informed decisions and support reasoning; and</p> <p>(F) transfer current knowledge to the learning of newly encountered technologies.</p>
 <p>Digital Citizenship</p>	<b>5. The student practices safe, responsible, legal, and ethical behavior while using technology tools and resources. The student is expected to:</b>	<p>(A) understand and practice copyright principles, including current fair use guidelines, creative commons, open source, and public domain;</p> <p>(B) practice ethical acquisition of information and standard methods for citing sources;</p> <p>(C) practice and explain safe and appropriate online behavior, personal security guidelines, digital identity, digital etiquette, and acceptable use of technology; and</p> <p>(D) understand the negative impact of inappropriate technology use, including online bullying and harassment, hacking, intentional virus setting, invasion of privacy, and piracy such as software, music, video, and other media.</p>
 <p>Technology Operations and Concepts</p>	<b>6. The student demonstrates a thorough understanding of technology concepts, systems, and operations. The student is expected to:</b>	<p>(A) define and use current technology terminology appropriately;</p> <p>(B) select and apply technology tools based on licensing, application, and support;</p> <p>(C) identify, understand, and use operating systems;</p> <p>(D) understand and use software applications, including selecting and using software for a defined task;</p> <p>(E) identify, understand, and use hardware systems;</p> <p>(F) understand troubleshooting techniques such as restarting systems, checking power issues, resolving software compatibility, verifying network connectivity, connecting to remote resources, and modifying display properties;</p> <p>(G) implement effective file management strategies such as file naming conventions, location, backup, hierarchy, folder structure, file conversion, tags, labels, and emerging digital organizational strategies;</p> <p>(H) explain how changes in technology throughout history have impacted various areas of study;</p> <p>(I) explain the relevance of technology as it applies to college and career readiness, life-long learning, and daily living;</p> <p>(J) use a variety of local and remote input sources;</p> <p>(K) use keyboarding techniques and ergonomic strategies while building speed and accuracy;</p> <p>(L) create and edit files with productivity tools, including:</p> <ul style="list-style-type: none"> <li>(i) a word processing document using digital typography standards such as page layout, font formatting, paragraph formatting, and list attributes;</li> <li>(ii) a spreadsheet workbook using advanced computational and graphic components such as complex formulas, basic functions, data types, and chart generation;</li> <li>(iii) a database by manipulating components such as defining fields, entering data, and designing layouts appropriate for reporting; and</li> <li>(iv) a digital publication using relevant publication standards;</li> </ul> <p>(M) plan and create non-linear media projects using graphic design principles; and</p> <p>(N) integrate two or more technology tools to create a new digital product.</p>



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 Creativity and Innovation	<b>1. The student uses creative thinking and innovative processes to construct knowledge, generate new ideas, and create products. The student is expected to:</b>	(A) identify, create, and use files in various formats, including text, raster and vector graphics, video, and audio files; (B) create, present, and publish original works as a means of personal or group expression; (C) explore complex systems or issues using models, simulations, and new technologies to develop hypotheses, modify input, and analyze results; and (D) analyze trends and forecast possibilities.
 Communication and Collaboration	<b>2. The student collaborates and communicates both locally and globally to reinforce and promote learning. The student is expected to:</b>	(A) create and manage personal learning networks to collaborate and publish with peers, experts, or others using digital tools such as blogs, wikis, audio/video communication, or other emerging technologies; (B) communicate effectively with multiple audiences using a variety of media and formats; and (C) create and publish products using technical writing strategies.
 Research and Information Fluency	<b>3. The student acquires, analyzes, and manages content from digital resources. The student is expected to:</b>	(A) create a research plan to guide inquiry; (B) plan, use, and evaluate various search strategies, including keyword(s) and Boolean operators; (C) select and evaluate various types of digital resources for accuracy and validity; and (D) process data and communicate results.
 Critical Thinking, Problem Solving and Decision Making	<b>4. The student makes informed decisions by applying critical-thinking and problem-solving skills. The student is expected to:</b>	(A) identify and define relevant problems and significant questions for investigation; (B) plan and manage activities to develop a solution, design a computer program, or complete a project; (C) collect and analyze data to identify solutions and make informed decisions; (D) use multiple processes and diverse perspectives to explore alternative solutions; (E) make informed decisions and support reasoning; and (F) transfer current knowledge to the learning of newly encountered technologies.
 Digital Citizenship	<b>5. The student practices safe, responsible, legal, and ethical behavior while using technology tools and resources. The student is expected to:</b>	(A) understand, explain, and practice copyright principles, including current laws, fair use guidelines, creative commons, open source, and public domain; (B) practice and explain ethical acquisition of information and standard methods for citing sources; (C) practice and explain safe and appropriate online behavior, personal security guidelines, digital identity, digital etiquette, and acceptable use of technology; and (D) understand and explain the negative impact of inappropriate technology use, including online bullying and harassment, hacking, intentional virus setting, invasion of privacy, and piracy such as software, music, video, and other media.
 Technology Operations and Concepts	<b>6. The student demonstrates a thorough understanding of technology concepts, systems, and operations. The student is expected to:</b>	(A) define and use current technology terminology appropriately; (B) evaluate and select technology tools based on licensing, application, and support; (C) identify, understand, and use operating systems; (D) understand and use software applications, including selecting and using software for a defined task; (E) identify, understand, and use hardware systems; (F) apply troubleshooting techniques, including restarting systems, checking power issues, resolving software compatibility, verifying network connectivity, connecting to remote resources, and modifying display properties; (G) implement effective file management strategies such as file naming conventions, location, backup, hierarchy, folder structure, file conversion, tags, labels, and emerging digital organizational strategies; (H) evaluate how changes in technology throughout history have impacted various areas of study; (I) evaluate the relevance of technology as it applies to college and career readiness, life-long learning, and daily living; (J) use a variety of local and remote input sources; (K) use keyboarding techniques and ergonomic strategies while building speed and accuracy; (L) create and edit files with productivity tools, including: (i) a word processing document using digital typography standards such as page layout, font formatting, paragraph formatting, mail merge, and list attributes; (ii) a spreadsheet workbook using advanced computational and graphic components such as complex formulas, advanced functions, data types, and chart generation; (iii) a database by manipulating components, including defining fields, entering data, and designing layouts appropriate for reporting; and (iv) a digital publication using relevant publication standards and graphic design principles; (M) plan and create non-linear media projects using graphic design principles; and (N) integrate two or more technology tools to create a new digital product.